

# Maricopa County Department of Public Health



## **2005 Outbreak Report**

Submitted By

Division of Epidemiology/Data Services

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The purpose of this report is to provide a general overview of the disease outbreak investigations that were reported during 2005 in Maricopa County, Arizona. For a more detailed description on the methodology followed in the investigation of outbreaks, please see the 2004 Outbreak Summary Report on the website: <http://www.maricopa.gov/public%5Fhealth/epi/outbreak.asp>

## Reporting requirements

In Arizona, health care providers (HCP), health care institutions (HCI), correctional facilities (CF), childcare establishments (CCE), administrators of schools, and shelters are all required to report outbreaks of infectious diseases to the Local Public Health Authority (see Table 1) under Arizona Administrative Code A.A.C. R9-6-203 and ARS Title 36.

**Table 1. Diseases requiring outbreak notification within 24 hours**

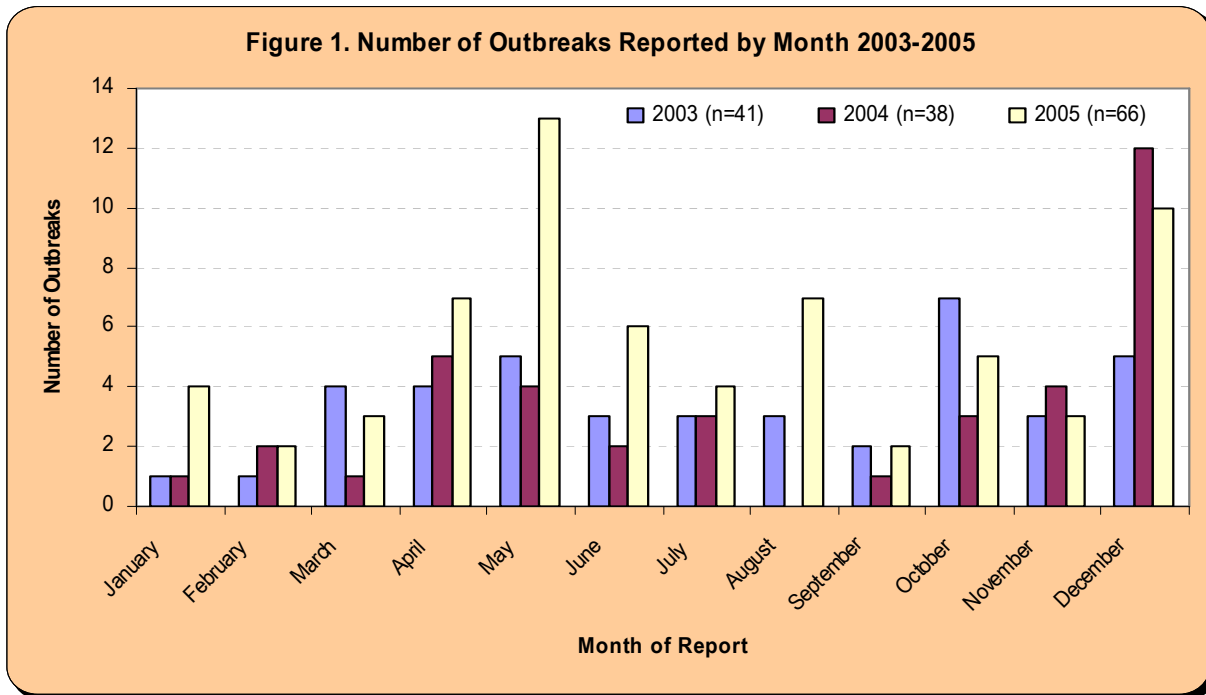
Disease/Condition	Reporting by HCPs, HCIs, and CFs	Reporting by Schools, CCEs, and Shelters
Amebiasis	X	
Campylobacteriosis	X	
Conjunctivitis: acute	X	X
Cryptosporidiosis	X	
Diarrhea, Nausea, or Vomiting	X	X
Giardiasis	X	
Hepatitis A	X	
Hepatitis E	X	
Salmonellosis	X	
Scabies	X	X
Shigellosis	X	
Streptococcal Group A Infection		X
Taeniasis	X	
Vibrio Infection	X	
Yersiniosis	X	

## Results

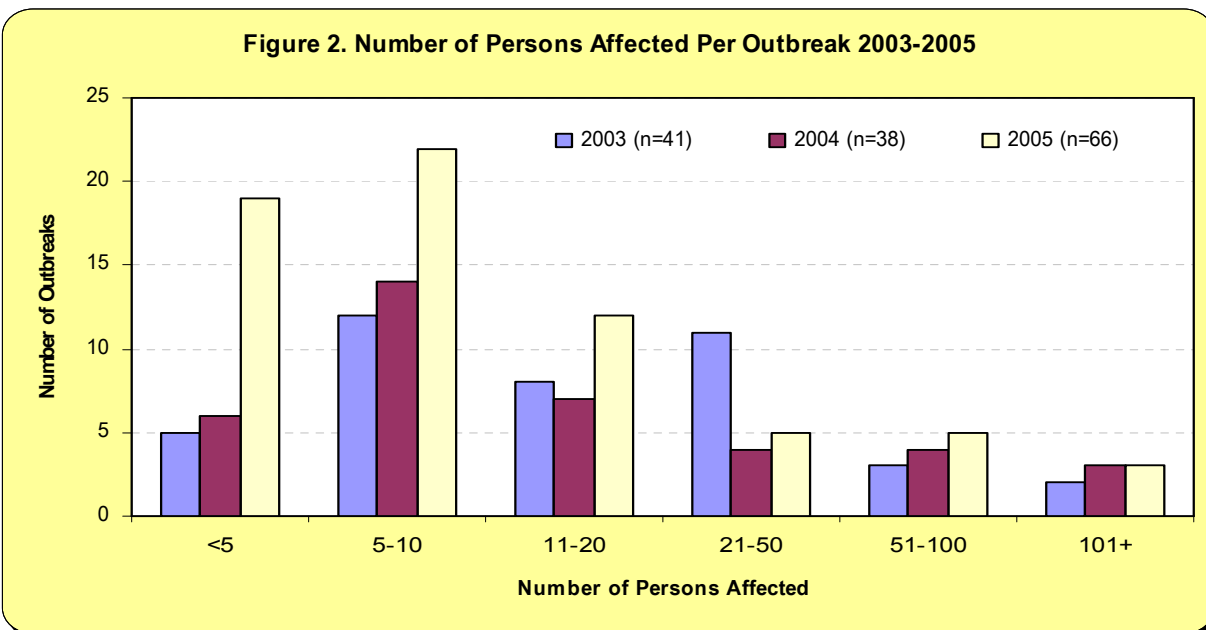
In 2005, 66 outbreaks were investigated by the Maricopa County Department of Public Health (MCDPH). The following sections summarize these data. For comparison purposes, 2004 data from 38 outbreaks and 2003 data from 41 outbreaks have been included.

**Note:** *This report brings together several documents previously distributed and/or presented in other venues.*

In 2005, 66 outbreaks were reported to MCDPH, or an average of 5.5 per month with a range of 2-13 per month. In 2004, the total was 38, an average of 3.2 per month, with a range of 0-2 per month. In 2003, the total was 41, an average of 3.4 per month, with a range of 1-7 per month. In 2005, the month of May had the most outbreaks reported with 13; while in 2004 the month with the highest number of outbreaks was December with 12 (see Figure 1).



The median number of persons affected per outbreak in 2005 was 7 (range 2-138); while in 2004 the median number of persons affected per outbreak was 10 (range 2-390); and the median number affected was 13 (range 2-800) in 2003. In 2005, 80% of outbreaks involved fewer than 20 persons (see Figure 2).



In 2005, the percentage of all outbreaks of unknown etiology was 50%, in 2004 this was 37%, and in 2003, this percentage was 39%. All 33 outbreaks of unknown etiology in 2003, 2004, and 2005 were gastrointestinal in nature. The pathogen of interest remained unknown for a variety of reasons including failure to obtain specimens for testing, outbreaks which were reported too late for testing, and testing which did not identify a pathogen. Table 2 summarizes the number of outbreaks by pathogen for the past three years.

**Table 2. Number of Outbreaks by Etiology**

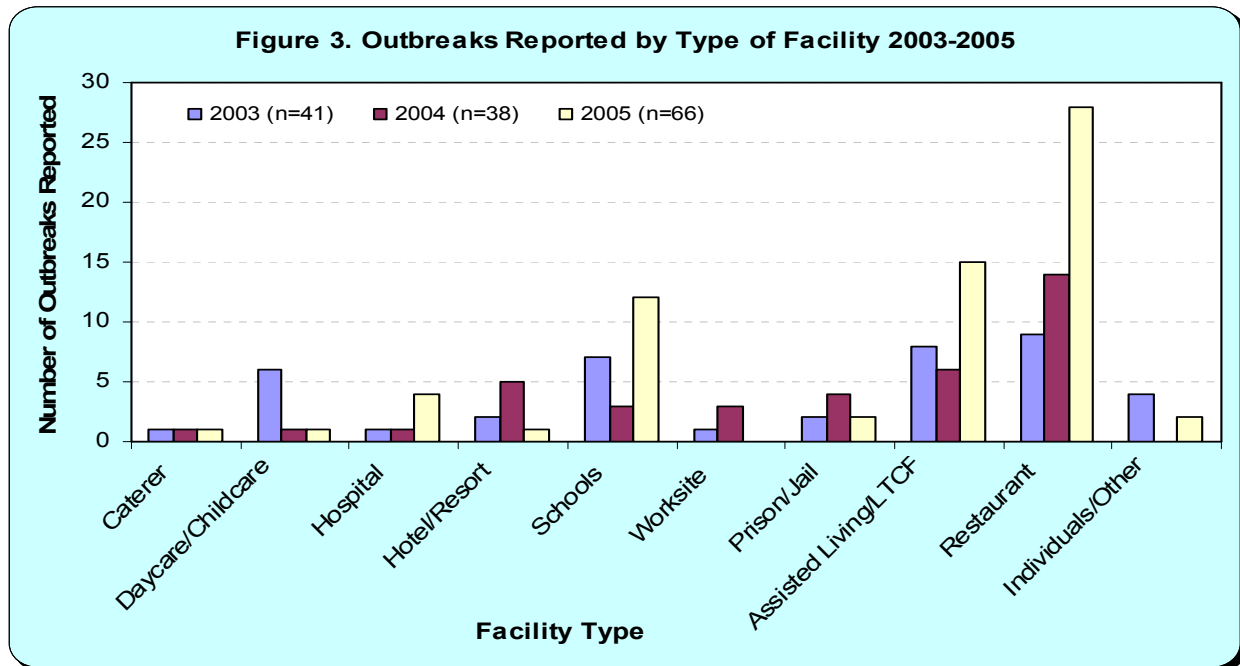
<b>Etiology of Outbreaks</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Aseptic Meningitis	1	0	0
H. pylori	0	1	0
Head Lice	0	1	1
Conjunctivitis	1	0	2
Giardia	2	0	0
Influenza	2	0	2
Influenza-like Illness	2	0	3
Legionella	1	0	0
MRSA	1	0	0
Pneumonia	1	0	1
Parvovirus B 19 (5th Disease)	0	0	1
Strep Group A	1	0	0
Salmonella	3	1	0
Streptococcus	1	0	0
Strep pneumonia	0	0	1
Shigella	4	1	1
Viral Gastroenteritis	0	1	0
Scabies	1	4	6
Varicella	0	3	2
Norovirus	4	12	13
Unknown (GI)	16	14	33
<b>Total</b>	<b>41</b>	<b>38</b>	<b>66</b>

While a specific etiology is often not determined, most outbreaks can be broadly classified. From 2003 through 2005, the majority of outbreaks were gastrointestinal in nature (see Table 3). Other types of outbreaks include conjunctivitis, streptococcal infections, head lice, and MRSA.

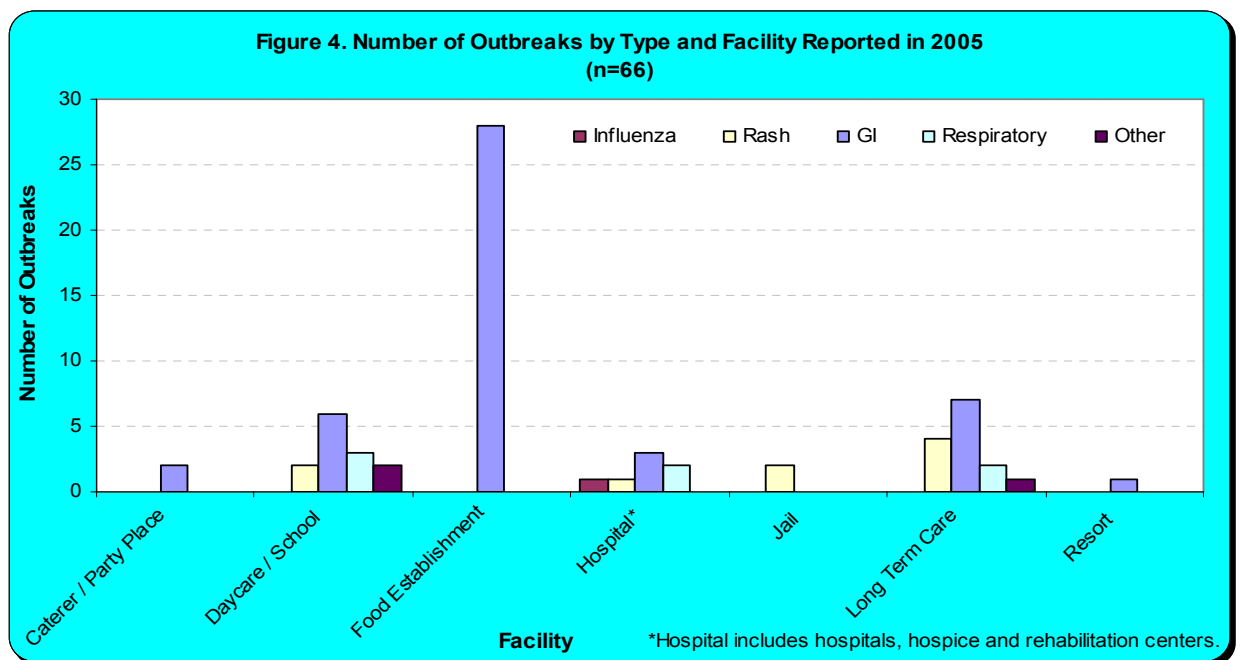
**Table 3. Type of Outbreaks**

<b>Outbreak Type</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Gastrointestinal	29	30	47
Respiratory	6	0	7
Rash	2	7	9
Other	4	1	3
<b>Total</b>	<b>41</b>	<b>38</b>	<b>66</b>

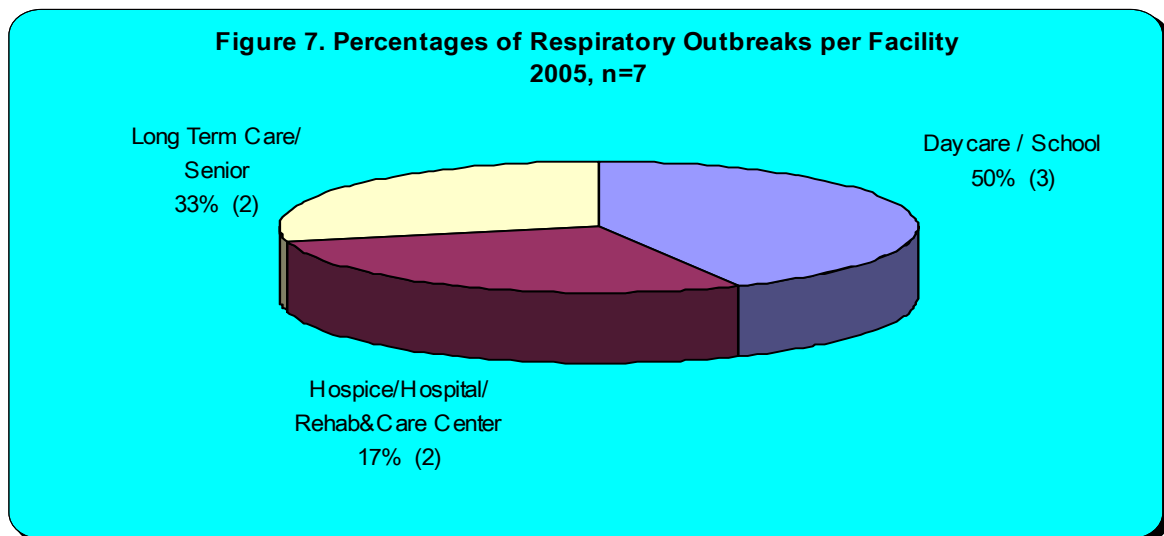
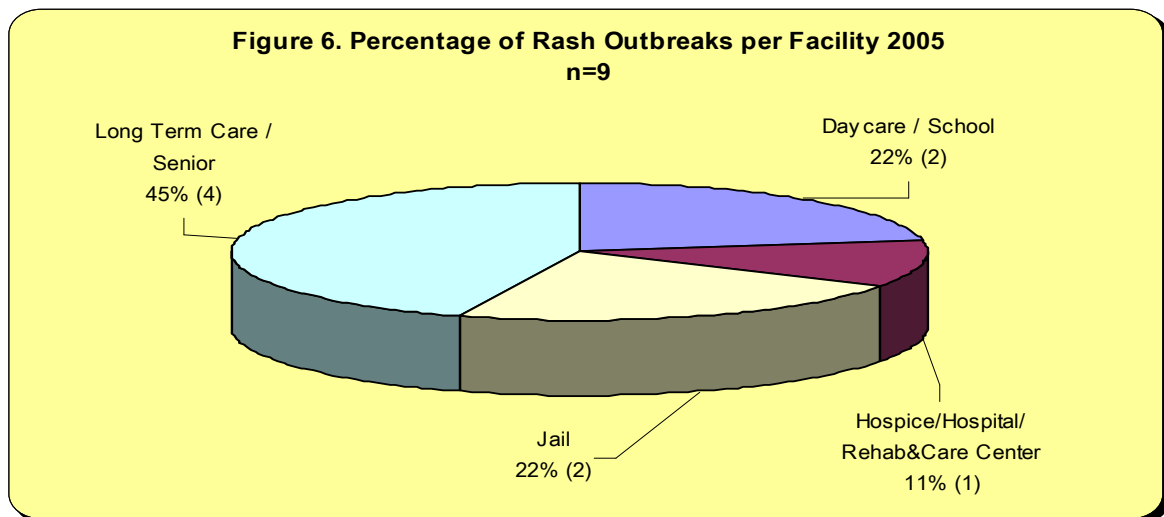
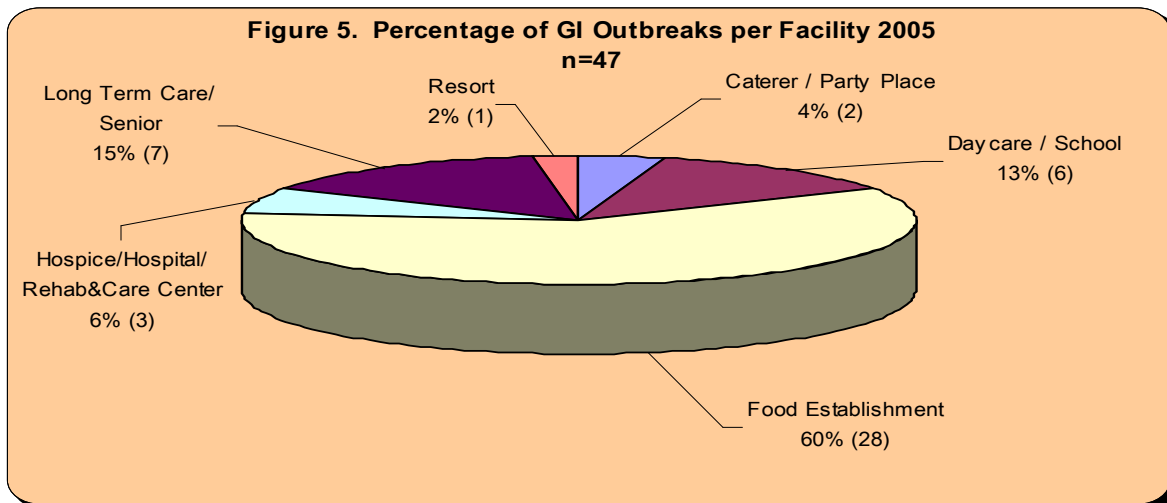
As shown in Figure 3, more schools and assisted living/long term care facilities reported outbreaks in 2005 compared to previous years. Twice as many restaurant outbreaks were reported in 2005 than in 2004.



As indicated in Figure 4, gastrointestinal (GI), respiratory and rash collectively accounted for ~94% of all outbreaks reported in 2005. GI outbreaks were prevalent in all but jail facilities, accounting for 71% of the total outbreaks reported. As expected, the GI outbreaks were predominately reported by food establishments. Hospital/hospice/rehabilitation centers and long term care/assisted living centers were more likely to report all types of outbreaks. Category "Other" in Figure 4 includes head lice and conjunctivitis outbreaks.

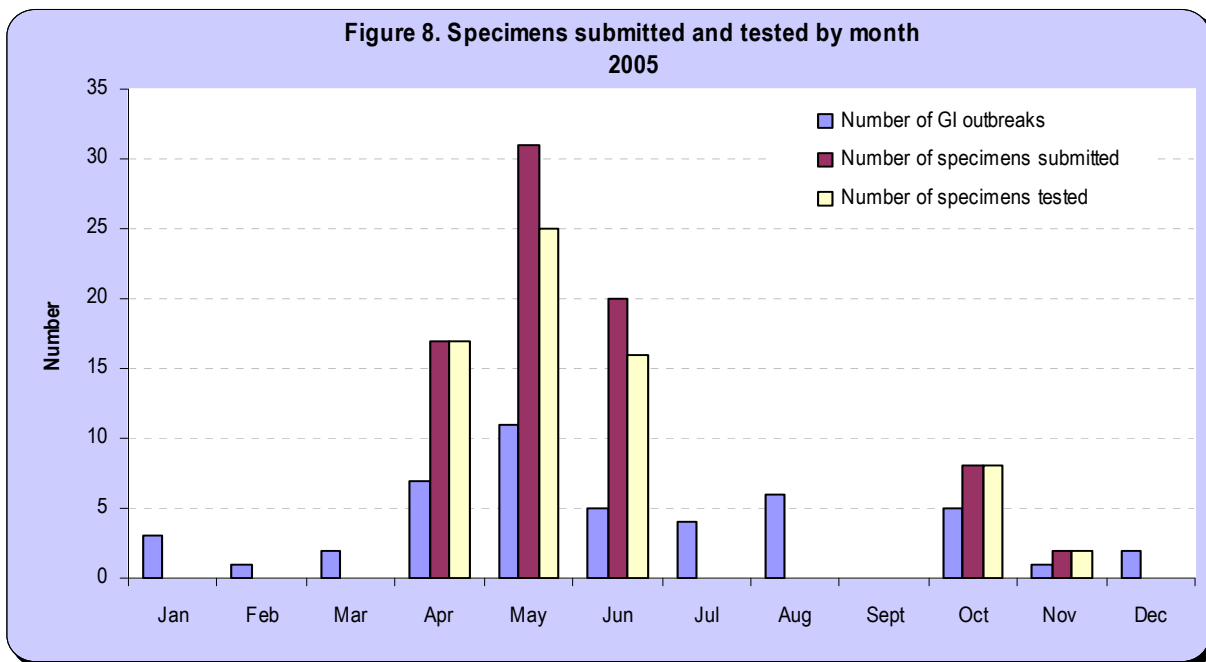


Figures 5 – 7, illustrates the occurrences of GI, rash, and respiratory outbreaks by percentages and number of outbreaks by facility.



For 16 (34%) of the 47 gastrointestinal (GI) outbreaks in 2005, stool specimens were collected for testing at the Arizona State Laboratory. The number of specimens collected per outbreak ranged from 1 to 16. The total number of outbreak-related specimens collected in 2005 was 78. Of these 78 specimens, 68 (87%) were tested. Once a pathogen is identified in an outbreak, the lab may not test all specimens submitted on the same outbreak. Figure 8 shows the distribution of specimens submitted and tested for 2005.

The majority of specimens (n=61) were tested for Norovirus, of those, 38 (62%) were positive. The remaining seven specimens were tested for Salmonella, Shigella and Campylobacter; all were negative. As shown in Figure 8. Specimens were not collected for all GI outbreaks. Reasons for not collecting specimens include too much time elapsing between the event and the report of illness and uncooperative or hard to reach cases.



## Summary

In 2005, there were 66 outbreaks investigated in Maricopa County. The average number of outbreaks reported per month was six. The outbreaks ranged in size from 2 to 138 persons affected. In 2005, the month with the highest number of outbreaks was May. Most reported outbreaks affected 5-10 persons. By far the most common pathogen isolated in outbreaks was norovirus; however, 50% of outbreaks were of unknown etiology. Environmental Services reported the majority of outbreaks which stemmed primarily from restaurant complaints. Most investigations involved restaurants followed by nursing homes or long-term care facilities.